

## Technical Statement

### Remote Emergency Packs 10m loom

There are many factors to take into account when mounting gear remote. We'll consider a typical fitting with driver, emergency and batteries 10m remote from the LED head.

If you are more than 1m away, then the cables should be 1.5mm<sup>2</sup> minimum and fire rated. (Emergency lighting standards)

For a typical LED head that normally runs at 700mA 30V (21W) our NED/3 emergency will run it at 2.5W 83mA

With 10m of 1.5mm<sup>2</sup> cable losses are 29mV/A/m which is  $0.029 \times 0.083 \times 10 = 0.024V$  or 2mW, which is negligible. Less than 1% is lost in the cables.

Under mains operation losses are  $0.029 \times 0.7 \times 10 = 203mV$  0.14W, which is still negligible (less than 1%).

However these figures only apply to a typical low current emergency pack such as NED/NES/NDA and similar ranges.

However what is of concern is how the driver senses the current. The 10m loom may make it sense the wrong current and over/under drive the LED load. It is only the LED driver details that can confirm this, and some dimming drivers are only specified for up to 2m. Additionally the EMC emissions and susceptibility will increase with longer leads, and will be dependent on the environment the cable is run in.

In conclusion low current emergency packs can typically cope with a 10m loom as long as there is not excessive EMC interference, but the more powerful, and possibly more sensitive, mains LED drivers may not suit the longer runs.

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